



September 5, 2019

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Joseph Laydon Town Planner Grafton Municipal Center 30 Providence Road Grafton, MA 01519



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RECEIVED

Subject:

Wireless Telecommunications Facility

84 Snow Road

Special Permit and Site Plan Review

SEP - 9 2019

Dear Joe:

PLANNING BOARD GRAFTON, MA

We received the following documents on August 30, 2019 via e-mail:

- Correspondence from Delta Oaks Group to the Grafton Town Planner dated August 23, 2019
 re: Wireless Telecommunications Communication Facility, 84 Snow Road.
- Plans entitled <u>Relocation Project Drawings</u>, <u>Proposed 143-FT Monopole</u>, <u>84 Snow Road</u>, <u>Grafton</u>, <u>MA 01536</u> dated May 28, 2019 and revised August 23, 2019, prepared by Delta Oaks Group for Crown Castle USA, Inc. (14 sheets)

Graves Engineering, Inc. (GEI) has been requested to review and comment on the plans' conformance with applicable "Grafton Zoning By-Law" amended through October 15, 2018; Massachusetts Department of Environmental Protection (MassDEP) Stormwater Handbook and standard engineering practices. As part of our initial review GEI visited the site on June 19, 2019.

This letter is a follow-up to our previous review letter dated July 6, 2019. For clarity, comments from our previous letter are *italicized* and our comments to the design engineer's responses are depicted in **bold**. Previous comment numbering has been maintained.

Our comments follow:

Zoning By-Law

- The application included a list of waiver requests. GEI understands that waiver requests will be addressed by the Planning Board. Please note, GEI does not have any civil engineeringrelated issues with the waiver requests except for the waiver requests relative to §1.3.3.3.d.25 and §1.3.3.3.e. Please see more detailed discussion at Comment #6 herein. No further comment necessary.
- 2. The locus maps presented on the cover sheet need to include a scale. (§1.3.3.3.d.8) Acknowledged. Scale bars were added to the locus maps.
- 3. Construction-phase employee parking and loading areas must be shown on the plans. Except during the initial phase of site preparation to create usable access, employee parking must not occur on Snow Road and unloading from Snow Road must not occur to the extent possible. (§1.3.3.3.d.19)

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The design engineer responded that construction staging will be added to future submittals of the plans. GEI will provide follow-up comments once said plan revisions are submitted. This comment was meant to address parking on any public way proximate to the work site - Snow Road or Greany Drive, Snow Road being the more likely-affected public way.

- 4. The project narrative states that a light will be proposed to illuminate the equipment area during service visits, the location and intensity of the light needs to be shown on the plans. (§1.3.3.3.d.22)
 - GEI will provide follow-up comments once the plans are revised to include the proposed light, as indicated by the design engineer.
- 5. The proposed electric service connection to the facility must be shown on the plans. (§1.3.3.3.d.28)
 - To clarify, this comment pertains to the route of the proposed connection from equipment in or near the public way to equipment at or near the cell tower's equipment pad. This comment also looks for confirmation that the electric service will be underground, not overhead. This comment does not pertain to specific design of the electric equipment, conductors or conduit(s).

Hydrology & MassDEP Stormwater Management

- Documentation needs to be submitted to demonstrate the project's compliance with applicable MassDEP Stormwater Standards and to demonstrate that the proposed drainage system connection at Greany Drive will not negatively impact the Town's drainage system. GEI calls the design engineer's attention to Grafton Subdivision Rules and Regulations Section 4.7.8, which "...applies to all facilities, regardless of their proximity to areas regulated by the Wetland Protection Act." The application of MassDEP Stormwater Standards and Stormwater Handbook (the Handbook) to this project is a local requirement, not a state requirement. GEI calls the design engineer's attention to the Handbook and Stormwater Standards presented therein relative to documentation required to demonstrate compliance with the MassDEP Stormwater Standards. The Handbook superseded the MassDEP Stormwater Management Guidelines. Relative to a hydrologic analysis, Grafton Subdivision Rules and Regulations Sections 3.3.3.19.b and 4.7.8.1 require Technical Release 55 methodology. GEI expects no increase in peak rates of runoff to the public way, as required by Standard 2 of the MassDEP Stormwater Whereas the public ways are jurisdictional to Grafton DPW, GEI recommends that the design engineer also solicit input from Grafton DPW.
- To not compromise the total suspended solids (TSS) removal capacity of the existing Greany
 Drive catch basin, the proposed connection to the Greany Drive drainage system needs to
 occur at a manhole instead of a catch basin.
 A connection to the Greany Drive catch basin has been eliminated. Please also see
 Comment #6.
- 8. The catch basin construction detail on Sheet C-6 needs to be revised to provide a four-foot-deep sump instead of a twelve-inch-deep sump. Also, a catch basin hood is needed. The formerly-proposed catch basins have been removed from the plans and the catch basin construction detail was deleted. Please also see Comment #6.

Consideration should be given to incorporating check dams (e.g. stone check dams) into the
drainage ditches to create small settling areas for increased total suspended solids removal.
The formerly-proposed drainage ditches were removed from the plans. Please also see
Comment #6.

General Engineering Comments

- 10. On Sheet C-2.1, at the project entrance the existing 391-foot topographic contour crosses the driveway near the back of the sidewalk. However, a proposed 391-foot contour crosses the driveway in the grass strip between the sidewalk and the road, indicating a fill condition and raising of the sidewalk. The location of the proposed 392-foot contour indicates that the sidewalk would be raised approximately one foot. The existing elevations of the sidewalk and grass strip need to be maintained except for the provision of a driveway apron (would be a shallow cut condition) between the sidewalk and the road.
 - Acknowledged. The proposed topography at the sidewalk was revised to maintain the existing elevations of the sidewalk.
- 11. To protect the Greany Drive road and sidewalk, and to minimize the potential for tracking sediment onto public ways during and after construction, the first two-hundred feet of the project driveway should be paved rather than left as a gravel surface.
 Acknowledged. The plans were revised to propose bituminous asphalt pavement along the entire length of the driveway.
- 12. On Sheet GN-1, Seedbed Preparation Note #8 refers to a permanent seeding specification on Sheet C-9. A seeding specification was not included on Sheet C-9.

 Acknowledged. The reference was revised to Sheet C-7.

General Comments

- 13. GEI did not review the structural or electrical information associated with the wireless telecommunications equipment. Such reviews are beyond the scope of this civil engineering-related site plan review.
 - No further comment necessary.
- 14. If not already done, the Planning Board may wish to solicit comments from the Fire Department relative to site access and driveway grades. The driveway grade near the equipment compound (where emergency vehicles may stage during a response to the compound) will be up to approximately 13%. Furthermore, there will be an abrupt change in grade (to approximately 11%) near the project entrance. A profile of the driveway should be prepared, and an evaluation made of the clearance under the largest Fire Department vehicle that would be expected to enter the site. The Fire Department's engines and Tower 1 apparatus have long overhangs at the rear of the vehicles that could be susceptible to "bottoming out". A more gradual change in grade may be needed.
 - The grading was revised near the entrance, an access road profile sheet (Sheet C-2.2) was prepared and vertical curves were utilized to create the driveway profile. The driveway's vertical alignment seems reasonable from an engineering perspective. GEI understands that the Grafton Fire Department has been solicited for comments. Per standard practices, for future plan submittals the vertical scale of the profile should be exaggerated 10 times that of the horizontal scale (i.e. to 1" = 4") or to 1" = 8" if the 1" = 4" scale does not fit the plan sheet.

Additional Comments, September 5, 2019

- 15. The monopole was relocated farther from the residences on Greany Drive. GEI has no engineering-related issues with the new monopole location.
- 16. On Sheet T-1, in the Sheet Index the descriptions of Sheet Nos. C-2.1 and C-2.2 need to be reversed.

We trust this letter addresses your review requirements. Feel free to contact this office if you have any questions or comments.

Very truly yours,

Grayes Engineering, Inc.

Jeffrey M. Walsh, P.E.

Principal

Cc: Victor Manougian, Esq.; McLane Middleton